

**Designing Exercise
Programs
Made Simple!**

By Wes Norris, CSCS

**A Resource For Personal Trainers
and
Fitness Enthusiasts**



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AUTHOR'S BIO:



Wesley Norris is a Certified Strength and Conditioning Specialist (CSCS) through the National Strength and Conditioning Association (NSCA). He has a Bachelors of Science degree in Exercise Science from Central Connecticut State University.

Wes currently works at Hartford Hospital as an Exercise Specialist and Performance Trainer. He also teaches for World Instructor Training Schools (W.I.T.S.) in courses on Personal Training Certification, Functional Training and Rehabilitation and has written a Functional Training workshop.

He is the owner of AllAroundFitness.org; a website providing educational products on exercise prescription, fat loss, personal training, functional training, gymnastics conditioning and more.

Wes has coached elite level gymnasts for over 14 years at various clubs including Tampa Bay Turners in St. Petersburg, FL. and CATS in Cheshire, CT. He was the Assistant to the talent identification program (TOPS) director for Region 6 in 1993-1996, a TOPS tester for Region 8, and strength clinician for a Region 8 Mini-Congress.

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Technique Magazine has published one of Wes's articles, "[Ankle Injuries: Prevention and Rehabilitation](#)" in the May 2005 issue and more are on their way!

Wes has produced and is continuing to produce DVDs, manuals and CD-ROMs on topics such as: Functional Training, Program Design, Gymnastics Conditioning, and much more!!

Wes is a sought-after speaker in both fitness and gymnastics, and lectures to 10-20 groups a year.

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Introduction

Dear Reader,

There are over 300 National Personal Training certifications available today. Some are comprehensive and some, not-so-much! But the one thing that they share is that there is so much information to be covered, they are unable to provide any in-depth material on any one topic.

Over the past 10+ years of teaching personal training certification courses, networking with colleagues and simply watching trainers train, I have found that the subject trainers are looking for most is on exercise programming.

“Designing Exercise Programs Made Simple” serves as a simple-to-use resource tool for those looking for programming ideas and protocols for training general population clients.

This book was written specifically for Personal Trainers, but will serve as a great guide for those interested in fitness, designing their own programs or as a great review for anyone studying to become a Personal Trainer.

Information Gathering

Before training *any* client, it is imperative that you meet with them before you begin training and interview them to get any and all information necessary to provide them with a thorough and safe exercise program.

The first thing that you want to do is make sure that you have them fill out a health questionnaire. There are many questionnaires already written and available to you to use with a new client. One of the more common (yet less inclusive) forms is the [PAR-Q](#). You may choose to view several different forms and design your own.

Once you have obtained this information, make sure that you read it thoroughly, checking for red flags such as:

- Family history of Coronary Heart Disease (CHD)
- Age
- Diet
- Sedentary Lifestyle
- Smoking
- Stress
- Hyperlipidemia (high cholesterol)
- Hypertension (high blood pressure)
- Obesity
- Diabetes

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If any of the above variables have been recognized, you may wish to refer your client to their physician to obtain approval to start an exercise program. The [form](#) should be signed by the physician and any contraindications or specifications to an exercise program should be included.

Make sure that the form is dated, and be sure to keep it on record *indefinitely*.

Make sure to adhere to the guidelines set forth by the physician and call them if you have any questions or concerns.

The next bit of information you will be collecting will be the client's *goals*. This is the most important information, as it will determine the exercise programming you will use!

Is the client looking for *hypertrophy* (increase in muscle mass), *strength*, *endurance* to walk or carry things for a far distance, *fat loss*, the ability to perform daily activities easier (*functionality*), overall *conditioning*?

WHY does the client have this as a goal? If they tell you they want to "get bigger", is it so that they will look better? Are they looking to perform better at an activity or at their job? If they say that they want to "get stronger", do they want to be stronger in able to lift something heavy? Do they want to be able to bench twice their body weight?

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Keep in mind that the goal your client *says* may not be the actual thing they are looking to achieve. Before designing a program for them, you need to make sure that you **both** have the same outcome in mind.

Next: What are the client's current eating habits? Is their diet going to be a factor in their results? Does it need to be modified?

Does your client have any past exercise experience? Do they have any specific likes or dislikes of exercises or equipment? This may be important in determining what kind of equipment you will use in your training.

What is the schedule of the client? How many days a week are they going to workout with you? How long per session?

If you are looking to gain this person as a paying client, *you* should recommend the schedule to *them*.

After collecting and reviewing all of the data, I will suggest to them, "Mrs. So-and-so, after talking with you and considering your goals, you would do best working out with me twice a week for an hour."

Chances are, they have *no idea* how often or for how long they should be training with you. And the obvious answer is: the more the better!

The FITT Principle Revisited

So now that you've gathered all of the information, it's time to start thinking about how you want to set up the program.

Frequency- how many days a week did you convince them they need with you? Are you going to design a program for them on their off days? Remember, and this is a good selling point, it's not what the client is doing when they are training with you, it's what they're doing when they're *not* training with you, that's going to get them to or keep them from reaching their goals.

Keep in mind that if they can only schedule on back-to-back days with you, you are going to have to plan the workout accordingly as to not have them doing the same body parts 2 days in a row.

Intensity- because we will be discussing resistance training before aerobic training, intensity will be considered in terms of percentage of one repetition maximum (% 1RM).

Chances are, you are not going to be testing your general population client for their 1RM. Therefore, intensity will be based on the repetition scheme you will be putting into place.

Time (Duration)- how long are you going to make each session? Will it be an hour long, or can you do everything you need in a half an hour? Sometimes, the half-hour session is an easier sell, especially if you want to see them 2-3 times a week or more!

Along with time per session, you need to get a feel for how long they are going to train with you over a weekly or monthly basis. Is there a specific date of an event for which they are trying to achieve a goal? Maybe a cruise or family reunion. This will give you a nice timetable in which to plan your program(see the chapter on [Periodization](#) for more details).

Type- will you be performing strength training, aerobic training, functional training, machines, free weights, bands, etc.

What type of equipment does the client have in their home? What will you need to bring? How much space will you have available?

All of these factors will be included in designing a program for your client.

Order of Exercises

When prescribing exercises, it is important to have the client perform the exercises for the largest muscle groups first.

The reasoning behind this is that larger muscle groups will require lifting a greater load in order to overload the muscle properly.

If the smaller, synergistic (assisting) muscles are already fatigued from performing an exercise, these muscles may exhaust early during an exercise for a larger muscle group. This may lead to the inability to complete the desired number of repetitions that would best stimulate the larger muscle group.

Example: If you are work the Latissimus Dorsi (lats), you are going to want to assign a pretty heavy load, as the lats are a large muscle group. The biceps are synergists of the lats in many exercises (ex. Lat pulldown).

If you have already done an exercise for the biceps and you are now going to perform a lat pulldown which involves the biceps, the biceps may already be fatigued. If the biceps fatigue during the pulldown, you may be unable to perform enough repetitions to fatigue the lats.

Sets, Loads, Reps and Rest Intervals (RI)

For each exercise, you will need to determine how many *sets* you want your client to perform. This may be anywhere from 1-5 sets of an exercise, depending on the goal.

The *load* is the amount of weight that your client will be moving. It may be a certain size dumbbell, a specific colored tubing, body weight, etc...

Repetitions (Reps) will need to be determined and will be the primary factor in measuring exercise intensity if a 1RM has not been taken.

Depending on the goal, you will set a repetition scheme within each set. The object is to adjust the load so that the muscles are fatigued within the rep scheme. If the client is unable to reach the desired number of reps, or is able to perform more than the prescribed amount, you may want to consider re-adjusting the load.

The combination of load, reps, sets and number of exercises are called *volume*. As we discuss programming for specific goals, we will discuss how to assign volume to your plan.

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Rest Intervals (RI) is the amount of time taken between sets and exercises. The RI is just as important as the load, sets and reps in designing an exercise routine. The RI will determine how much energy has restored and from what energy systems the next sets will draw from.

(The [Muscle Physiology Review](#) chapter will get into more detail about the replenishing of energy stores.)

1 Repetition Maximum (RM)

A 1 RM is the maximum amount of weight that a person can lift one time. Some of the programs you create are going to be designed around your client's 1RM.

With most clients you encounter, it will be very difficult, time consuming and uncomfortable for your client to test them for their true 1RM.

Therefore, you will want to use a method to *estimate* their 1RM.

An easy way to estimate the correct weight is to use a load that will cause the client to reach failure within a 2-10 repetition set. 2-4 repetitions will still be a hard set, and with an untrained client, the risk of injury is higher with this high intensity. With a general population client, I would recommend a 5-12 rep set, making sure that the client is at failure by the last repetition.

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****You MUST have the client perform at least 1 warm-up set at a lower load, ensure that the client has proper form during the exercise, and that you spot them!**

Once you have recorded the load and the number of repetitions performed to failure, there are charts that will give an estimate of the 1RM. I have found an online site that will determine the 1RM and corresponding percentages easily and accurately for you:

[Determine your 1RM and % HERE!](#)

Muscle Physiology Review

I have taken some the most important and practical information in exercise physiology and put them into one easy-review chapter.

Muscle Fiber Types

There are two basic muscle fiber types:

- Type 1 (slow twitch)
- Type 2 (fast twitch)

Skeletal muscles contain both Type 1 and Type 2 fibers. The ratio depends on the general function of the particular muscle. Each *motor unit* (a motor neuron and the muscle fibers it innervates) within the muscle, is composed of muscle fibers that are all the same type.

Type 2 fibers produce short, forceful contractions. They are the fibers that are *recruited* first when performing an activity requiring speed or power. These fibers have high *anaerobic* power. This means that they use stored ATP and PC to produce energy, but when those energy stores run out, they are inefficient at replenishing energy stores quickly, and therefore, *fatigue quickly*. Type 2 muscle fibers are recruited during high intensity work.

Type 2 fibers can be further broken down to Type 2A and Type 2B. Type 2A fibers have a greater capacity for aerobic metabolism and are therefore more resistant to fatigue than Type 2B.

Studies have shown that, with endurance training, Type 2B fibers can start to take on characteristics of (covert to) Type 2A Fibers. If you have a power athlete (lineman or power lifter), you may want to refrain from endurance training as it may lead to less Type 2B fibers and decreases in speed, strength and power.

Slow twitch, or Type 1 fibers, are used during low intensity, long duration (endurance) activities. These fibers are able to sustain long, continuous contractions, such as those created during walking, swimming, long-distance running, or resistance training of 20 or more repetitions.

Type 1 fibers produce energy *aerobically*. Because of large amounts of mitochondria within the fibers, oxygen is used to regenerate ATP and create muscle contractions.

Type 1 muscle fibers will be recruited during both low *and* high intensity work.

Here's a chart for easy comparisons:

TYPE 1	TYPE 2A	TYPE 2B
Slow twitch	Fast twitch	Fast twitch
Slow contraction speed	Fast contraction speed	Fast contraction speed
Low force production	Intermediate force production	High force production
High endurance	Intermediate-Low endurance	Low endurance
Low fatigue rate	Intermediate-High fatigue rate	High fatigue rate

Energy Systems

The human body has three energy systems. *At any given time, all three systems are functioning simultaneously.*

ATP (adenosine triphosphate) is a compound in the body that is responsible for all processes related to cellular function. This, of course, includes energy for muscular contraction. It is the breaking down of ATP to a compound called ADP (adenosine diphosphate) that creates energy. It is the constant recycling of ADP to ATP that allows the body to continue to use energy.

The three different energy systems allow you to accommodate your energy needs based on the type and intensity of the activity.

Immediate energy- comes from the ATP/PC System (phosphagen system). The body has only enough stored ATP to produce about 1-3 seconds of high intensity work. The body also stores a limited amount of PC (phospho creatine; also called creatine phosphate), a molecule that when broken down, similarly to ATP, can produce a large amount energy. The ATP/PC system combined can produce a high amount of energy quickly, but will only last for 1-10 seconds.

Short-term energy- comes from the Lactic Acid System (anaerobic glycolysis). Anaerobic glycolysis is used to create ATP during an activity of high intensity for a duration longer than that which the ATP/PC system can sustain. Glycolysis is the breakdown of carbohydrates (either glucose in the blood or glycogen stored in the liver) to produce ATP.

The process of anaerobic glycolysis leads to the production of Lactic Acid (LA). If the intensity of an exercise is too high for too long, a significant accumulation of LA will form requiring a decrease in intensity or cessation (stopping) of the activity. The accumulation of LA is what causes the "burn" during an exercise.

The Lactic Acid System provides enough energy for activities of moderately high intensity for 10 seconds to about 3 minutes.

Long-term energy- comes from the aerobic or oxidative system. With the aid of oxygen, carbohydrates and fats are broken down to create energy.

When exercise is done at a lower intensity, one that is easily sustained for a long period of time, ATP is produced rapidly and efficiently.

The aerobic energy system provides the energy requirements needed to perform activities of low to moderate intensities for greater than 3 minutes.

Here's a chart for easy comparisons:

ATP/PC System	Anaerobic Glycolysis	Aerobic System
<u>Fuel:</u> Stored ATP	<u>Fuel:</u> Glycogen	<u>Fuel:</u> Fatty acids
Creatine Phosphate	Blood glucose	Blood glucose glycogen
<u>Intensity:</u> very, very hard	<u>Intensity:</u> very hard	<u>Intensity:</u> Moderate to somewhat hard
19 Borg*	15-17 Borg*	12-13 Borg*
<u>Duration:</u> 1-10 seconds	<u>Duration:</u> 30sec-3min	<u>Duration:</u> >3 min

*[Borg scale](#)

Replenishment of energy during Rest Intervals (RI):

At 30 seconds of complete rest between sets or exercises, about 50% of depleted ATP/PC stores are restored.

At 3-5 minutes, almost 100% of all ATP/PC stores are replenished.

Program Design

Goal: Hypertrophy

Hypertrophy is the muscular enlargement that results from resistance training. It is the result of an increase in the cross-sectional area of existing muscle *fibers* due to an increase in number or size of muscle *filaments*.

When designing a hypertrophy program, the load should be of moderate intensity or about 70-85% of 1RM.

The client should reach *contraction failure* within a set at 6-12 repetitions.

The number of sets should range at 3-6 sets per exercise, although some body builders will sometimes perform 12-20 sets of an exercise!
(*these numbers do not include any warm-up sets)

Rest Intervals (RI) are very important during a hypertrophy program. The time between sets should be between 30-120 seconds. This will allow some ATP to be restored, but does not allow for complete ATP replenishment.

It is believed that gains in muscle size are stimulated by a disturbance in the consumption and replenishing of ATP.

Hypertrophy Quick-Chart:

% max	Reps	Sets	RI
70-85	6-12	3-6+	30-120 sec

Goal: Strength

Strength is defined as the maximal force a muscle or muscle group can generate at a specified velocity.

Strength is gained due to increased motor unit activation which results in a high recruitment of FT muscle fibers.

Strength training can improve strength gains up to 3 times of that which is achieved with a hypertrophy training program.

When prescribing a strength training program, the assigned load should be very heavy allowing for a repetition scheme of 1-6 reps.

The number of sets per exercise can range from 2-6.

A longer rest interval will be required so that ATP can fully replenish in order to allow for near maximum loads to be lifted during subsequent sets (3-5 minutes).

Strength Quick-Chart:

% max	Reps	Sets	RI
85-100	1-6	2-6+	3-5 minutes

****Important Note:****

In both the hypertrophy and strength training programs, it is crucial that your client work to **ABSOLUTE FAILURE** at the given rep. What that means is that they don't stop after a rep because it feels "uncomfortable"! They try that next one! And if they get it up, they try another one! (with correct form)

This is what the hypertrophy and strength training programs are all about. Very hard work!!

For this reason, it is **crucial** that you are right there spotting them; to ensure good form, to help them with that last rep, and to take the weight from them after failure!

To reiterate what was said earlier, make sure that you decide with the client the best course of program design. Many clients who are looking for "strength" may not be able to handle the demands of an intense strength training program.

This is where you always need to be "feeling out" your client. How are they feeling during a set? Do they look like they hate it? If so, you may lose this client. You need to constantly re-evaluate their training program and tweak it based on how they are responding both physically *and* mentally!

Goal: Muscular Endurance

Muscular endurance is the ability to sustain muscular contractions over time, without undue fatigue.

Remember that we are talking about *muscular endurance* gained from resistance training, not cardio respiratory endurance as in jogging, swimming, training for a marathon, etc.

Training for muscular endurance will help people with walking for an extended period of time, carrying a load over a distance (groceries), holding a baby, anything that requires the muscles to perform work over an extended period of time.

When designing a muscular endurance training program, assigned load will be light to moderate.

The repetition scheme will be set at a range where the client is able to perform a higher number of repetitions. Keep in mind that you will still want to assign a load that has the client fatiguing within the repetition range.

The rest interval can be relatively short, due to the fact that there is no *maximal* contribution from either the ATP/PC or the Lactic Acid systems.

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Circuit training is a great program design for someone looking to build muscular endurance. With a properly designed set-up, the client can move from one exercise to the next with little or no rest between exercises, and hit every major muscle group in a short amount of time.

A muscular endurance program may also be a good idea for a client who does not have any specific goals other than to *maintain* their fitness level. This type of program is of low intensity which will make it more desirable to a client who does not like to exercise, is at risk for musculoskeletal injuries or has a history of hypertension.

Muscular Endurance Quick-Chart:

% max	Reps	Sets	RI
<70	12-20	2-3	20-30 sec

Combined Quick-Chart:

Goal	Hypertrophy	Strength	M-E
% MAX	70-85	85-100	<70
Reps	6-12	1-6	12-20
Sets	3-6+	2-6+	2-3
RI	30-120s	3-5 min	20-30s

Goal: Toning/Muscle Definition

A large percentage of your clients are going to come to you looking to “tone up”. Toning is a word that has a different physiological meaning than the way most people use it.

Most people who want to “tone up” are looking for *muscle definition*. This is going to come by means of burning subcutaneous fat stores and by increasing muscle size in the desired areas.

There are many in-depth ways to increase muscle definition and the appearance of the striations of muscle fibers for a competitive body builder, mostly through the manipulation of diet. We will focus on the general population client.

To increase the size of the muscle, you would prescribe a routine similar to the hypertrophy program, but probably with a bit less intensity.

The reason I say this is that *typically* the client looking for the toning workout will be uncomfortable, and therefore, non-compliant with an exercise routine with the intensities of those prescribed in the hypertrophy section. Going to absolute failure may be too much for them.

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A well-designed circuit training program is a great routine for someone looking for *overall* muscle definition. The program would be 2-4 sets of 10-12 reps at an intensity that makes them “really work” to get that 10th, 11th, and 12th rep in.*

*think 15 on the [Borg/RPE Scale](#)

With someone looking to increase muscle definition at a specific area, you can prescribe a full-body workout (like a circuit), and add exercises that specifically target that desired muscle group.

For example: a full-body, circuit training program will increase muscle size and strength in all of the major muscle groups, resulting in a healthier client over-all. It will also burn more calories during the workout and can increase total lean muscle tissue resulting in a higher resting metabolic rate (will burn more fat at rest).

But the client has specifically mentioned wanting to “tone up” the triceps. You can now add specific exercises for the triceps. Add some dumbbell kickbacks and overhead triceps extension to the triceps exercises already in the circuit. This will just hit the triceps harder, recruiting more and different muscle fibers which will stimulate growth.

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Increasing the size of the muscle will eventually lead to burning more calories. However, unless there is a **significant** increase in lean tissue, there is not going to be a huge caloric expenditure just based on the new muscle.

Therefore, we must do other things to help aid in the oxidation (burning) of fat.

Fat Burning

At any given time, your body is burning a percentage of fat and carbohydrate in order to provide energy for body function. The intensity level of the activity will determine what percentage of each calorie will come from using fat or carbohydrate.

It is a scientific fact that the higher the intensity level of an activity, a lower % of fat and a higher % of carbohydrate is being used.

It is *this* philosophy that gives people the idea that a lower intensity of exercise will burn a greater amount of fat. While it is true that per calorie, more fat is being burned at a lower intensity, a higher intensity exercise session will use a greater *TOTAL* number of calories which will, in turn, use a greater total amount of *fat!*

If you are going to prescribe aerobic exercise for your clients to do to help them lose weight/fat (I assign it as "homework" on days they don't train with me), assign them the appropriate heart rate to achieve maximum fat loss (see chapter on [Aerobic Training](#)).

When designing a program for fat loss for a client, it is a matter of prescribing resistance training to burn calories and increase lean muscle tissue, HIIT training for increased fat burning, and a proper nutritional program in a proportion that works best with the client.

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Although this is a bit vague, there is no perfect prescription for fat loss. A decrease in weight will come from only one means: *expending more calories than you consume*. PERIOD! A combination of resistance training, HIIT training and proper nutrition will help your client create this caloric deficit.

Goal: Conditioning

The client who comes to you looking for overall conditioning means that you're going to have fun!

Why? To me, if someone comes in looking for conditioning, this means a combination of: strength, hypertrophy, functional training, fat loss, aerobic training, muscular endurance, flexibility...you name it!

With this client, you are going to be able to perform all kinds of exercises using all different kinds of equipment. It will be your chance to get creative!

Hopefully, this client is going to commit to a longer period of training with you. And if they aren't, you need to explain to them that conditioning is not a matter of giving them a program made of sets and reps. It is a long-term plan made up of a variety of training goals.

If the client isn't willing to commit, explain to them that you can introduce some different training methods to them, but it is constant manipulating and periodizing of these methods that are going to produce the outcome they are looking for.

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With a long-term commitment to an exercise program (~3 months or more), you may want to periodize the training program. You may want to break it up into several different, short-term programs for various goals (see chapter on [Periodization](#)).

You can also break up the training week into different phases of training. You can do a strength training program on the first day of the week, a functional training and HIIT program on day 2, and maybe a circuit on day 3.

With the client looking for conditioning, you can also add aerobic work to their program, as it can help with cardio-respiratory fitness, and with maintaining a healthy blood pressure and cholesterol level.

Functional Training

“Functional Training” (FT) has become a term that is used very frequently in the fitness world to describe a variety of things.

The term “Functional Training” should be used to describe a program or an exercise that enables a client to perform a given activity more easily; it aids in or promotes the *function* of that activity.

There is now a huge market of products that claim to be in the category of “Functional Training Equipment”. The thought is that they enable a person to train in 3 planes of motion with the ability to simulate many different activities and movement patterns while providing a full range of motion.

While this is true, wouldn't lifting a 50 pound bag of topsoil functionally train someone who has to lift heavy objects all day? Would pushing a car around a parking lot be a great way to simulate a football lineman having to block, lift and push a 300 pound defensive lineman all over the field?

Sure! But you won't see bags of topsoil or used cars in these Functional Training catalogs. The point I am trying to make is that FT is *any* training that helps your client perform specific activities more easily.

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The Functional Training products companies offer are very useful and fun products. If you have access to them, try out everything you can! Use them for exercises you have seen. Feel what the client will feel. Determine whether or not you think you can incorporate this piece of equipment into your programs.

Do you have enough room for them? Will your clients like and benefit from using them based on their goals? Can you transport them easily? Will it be cost effective to purchase them?

Once you have tried some of the exercises you know on these apparatus, get creative! Try the same exercise *on one leg*. Perform an exercise but *add a twist*. How about doing the exercise while *in a squatted position*. Take the time to think of new exercises and new challenges. Have a reason you might prescribe this exercise to somebody. Will you add a squat because you client has to bend and lift something while pushing or pulling something? Will they try the exercise on one leg because they play basketball on the weekends and may be required to turn quickly while standing on one leg? Think! This is personal training!

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I love to use exercise tubing or bands when training my clients. They are probably my favorite piece of exercise equipment. While they come in different resistances, *one* band can provide a huge range of tension based on how far you stretch it. This piece of equipment enables you to create exercises for every major muscle group, develop HIIT training routines, allow for quick and easy changes to instantly “tweak” the program to create imbalances and new challenges, and fold up into your bag to take to your clients home.

**The latest DVD by
AllAroundFitness.org:
Resistance Band Training
will be available in the Fall of
2005. It is the first in a new
series of DVDs on
*Functional Training.***

**If you would like to be put
on a list to be notified when
this and other products
become available, please
send a blank email [to here.](#)**

High-Intensity Intermittent-Training (HIIT)

HIIT training is not a new means of training but has recently become more popular. HIIT training is interval training with a bout of very high intensity followed by a rest/recovery period or period of lower intensity.

Studies have shown that HIIT training is far superior for fat loss than long, steady duration (LSD) aerobic exercise (example: 45 minutes on a treadmill at 75% MHR).

View 2 of my favorite articles on HIIT:

[First Article](#)

[Second Article](#)

What these studies have shown is that, although more calories may be burned *during* the LSD exercise session, the HIIT training method burns more calories and fat *after* the training has stopped. The cause of this is *excess post-exercise oxygen consumption* (EPOC). It is the amount of fat utilized throughout the entire day that is more important than the amount of calories and fat used during the exercise session.

Some studies have shown a **9 times greater** amount of fat burned after HIIT training compared to LSD training.

[Suggested Article on EPOC](#)

Designing Exercise Programs Made Simple!

By Wes Norris, CSCS

Besides HIIT training being a great protocol for fat burning, it is also easy to prescribe because it can be done using a variety of equipment.

Remember, HIIT training is an intense period of exercise (say, 10 seconds), followed by a "recovery" or rest period (say, 45 seconds). This would give you a work to rest ratio of 1:4.5.

This can be done in many ways:

- 10 seconds of fast rope jumping followed by a 45 second jog
- a 10 second sprint followed by 45 seconds of walking (or in a swimming pool)
- fast climb up several flights of stairs, walk back down

It's a matter of being creative using the equipment available. And, as you can see, it can be done with no equipment at all!

Although different studies use different percentages of HR to determine intensity level, these do not have to be followed exactly.

When prescribing HIIT training for your client, make the work interval fall somewhere on a 19-20 on the [Borg scale](#).

**** Before I go any further, it is IMPAIRATIVE that you realize that HIIT training is extreme and only for those individuals who are already at a high level of fitness! ****

You probably won't want to start your client performing the work interval at a 19-20 right away. You need to start them at a level that challenges them, but doesn't kill them! Progress accordingly.

Another progression lies in the changing of the work to rest ratio. You may want to start your client at a 1:6 ratio (10 seconds of high INT: 60 seconds of recovery), and gradually decrease the rest time, increase the work time, or both.

Examples:

15 sec. Of Work: 60 sec. Of Recovery (increased work)

10 sec. Of Work: 45 sec. Of Recovery (decreased rest)

15 sec. Of Work: 45 sec. Of Recovery (increased work and decreased rest)

A third way to increase the intensity level with HIIT is to increase the number of exercise bouts.

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By Wes Norris, CSCS

Maybe your first training session was a 5 minute warm-up (yes, don't forget the warm-up!!), followed by a 1:3 interval, repeated 5 times. Add a 5-10 minutes cool-down. After a few sessions of this (if your client hasn't left you for doing this to them), you can now add another interval or 2. So now they will be repeating the 1:3 interval 6 or 7 times in a session.

HIIT training should probably be prescribed only 1-2 times a week to allow for complete recovery.

HIIT training can also be performed with resistance exercises. How about doing 15 seconds of hard, fast tubing rows followed by a 60 walk up some stairs.

(see [Sample Workouts](#) for more HIIT ideas)

Periodization

Periodization is the varying of training phases, goals, intensities and volumes to achieve maximum performance and peak levels of conditioning.

Periodization is most often used by Strength and Conditioning Coaches of sports teams who have an entire training year with their athletes.

Sports teams often have the year broken down into:

- Off-Season
- Pre-Season
- In-Season
- Post-Season

Each of these "seasons" usually lasts several weeks to several months, depending on the sport. Because different training phases occur within each different part of the season, different names have been assigned to these phases.

Macrocycle- the largest training block of time; may represent an entire year of training

Mesocycle- 2 or more *mesocycles* occur within a macrocycle; may last several weeks to several months

Microcycle- 2 or more *microcycles* occur within each mesocycle; may last a week to several weeks

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To read more about sport-specific periodization training, check out: [Periodization Training for Sports](#).

Periodization can also be used when training your general population client.

If you are fortunate enough to have a client for an extended period of time, creating a periodized program will keep the workouts fresh, challenging and effective.

Example: Let's say you have a client who has signed up for 3 months of training (12 weeks). The client is looking for overall conditioning. The first two weeks may be some easy work; assessing strength and technique, introducing them to various exercises; building a solid conditioning base.

Weeks 3-6 can now be a *hypertrophy phase*. Perhaps you keep the exercises traditional and base the program on the hypertrophy protocol. Besides increasing muscle mass and gaining strength, the tendons and ligaments are becoming progressively stronger.

Week 7 will be a *transition* phase. Instead of jumping right into the next phase, this week can be some functional training or an introduction to HIIT training. It will give the muscles a week to "unload" (recover) before moving onto the next phase.

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Weeks 8-10 might be designed as a *strength training* phase. Proper form has already been established, and tendons and ligaments are stronger. You can now increase the load to follow a strength training protocol.

Weeks 11 and 12 can be a *functional training* phase. While this will unload the muscles, it will also keep the muscles active, keep the heart rate up, and incorporate some new and exciting exercises in the routine.

Perfect timing since the client is deciding whether or not to re-sign!

If you have a client who works with you year-round, you can extend each phase to 3 or 4 weeks and add different phases to the training:

- Functional training phase
- Conditioning phase
- Muscle Definition phase
- Sport-Specific phase
- Hypertrophy or Strength phase #2

Whatever you create and design!!

As you are interviewing a potential client for the first time, it is important to relay to them that although a specific goal may be reasonable, the time frame in which they expect to see those results may not be.

For example: If your client's goal is fat loss, and they decide that they want to sign up for 5 sessions with you, this is not a reasonable amount of time to accomplish and significant fat loss results.

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By Wes Norris, CSCS

You can explain to them that you can help them get accustomed to appropriate exercises, provide corrections on form and technique, and help them design a program that will help them with their goal. But it will take almost 5 sessions to accomplish this.

A more realistic approach would be to get them to sign-up for a minimum of 10 sessions. At 2 sessions a week for 5 weeks, some significant changes in the body can occur. When these results become apparent, it will also make it easier to get the client to continue working out with you.

This is important to remember **before** your client decides on a set number of sessions. Remember, when you meet with a perspective client, they are looking for **YOU** to tell them what they need. Don't be afraid to sell your service. Tell them what **you** suggest! Results WILL happen with a properly designed program and the application of the plan. You just have to make sure the client is willing to give you and the program the *time* needed for it to work!

Aerobic Training

There is a lot of controversy in the fitness world about the importance of aerobic exercise in a fitness program prescription, especially for fat loss.

Some world-renowned fitness experts claim that aerobic training is simply a waste of time for fat loss, while others advocate it.

"Aerobics are useless for fat loss." Alwyn Cosgrove
(entire article can be read [here](#))

"Aerobic Exercise is essential for weight loss." CSMNGT.com
(view web page [here](#))

While aerobic exercise will help you burn calories, it would be more effective to assign HIIT training if fat loss is a goal.

However, HIIT training is very strenuous, and your general population client may not like intensity of such a workout. So while HIIT training will burn more calories *after* the training session and is therefore more effective, aerobic exercise may be the necessary means to help facilitate caloric expenditure.

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HIIT training would be a form of exercise that you would include in a training session that you were present for. Aerobic exercise would be better prescribed as "homework", as the client can perform this on their own. To stand next to a client as they walk or jog for 20 minutes on a treadmill is a big waste of your time and their money.

I have, however, had a couple of clients who told me that if I *wasn't* standing there over them they would never perform *any* kind of exercise. Because I wanted these clients to perform aerobic exercise for health reasons, the first 20 minutes of our workout was aerobic training on a treadmill or stationary bike.

Although there is controversy regarding aerobic training for *fat loss*, there is no arguing that aerobic training has many *health benefits*.

Benefits of aerobic exercise:

- Improved blood cholesterol
- Reduced hypertension (blood pressure)
- Improved ability to manage stress
- Increased caloric expenditure
- Increased endurance
- Enhanced oxygen exchange in the lungs
- Improved blood flow throughout lungs
- Decreased submaximal respiratory rate
- Increased cardiac output
- Increased blood volume
- Enhanced blood flow to skeletal muscle
- Increased mitochondrial size and density

This shows that there are obvious benefits to aerobic training. It is up to you to decide, based on your client's needs, whether you will prescribe aerobic exercise, and if so, how much and how often.

Since we are dealing with the general population client, it is hard to argue that they shouldn't be performing some form of aerobic exercise to reap the health benefits associated with this kind of training.

There are many ways to measure exercise intensity during aerobic exercise. **The Maximum Heart Rate (MHR)** method (220-age) is widely used but is less accurate in relation to VO2 MAX (the truest measurement of intensity).

Exercise intensity percentages using the **Heart Rate Reserve (HRR)** method uses the [Karvonen Formula](#), and correlates almost exactly to VO2 MAX numbers. **You need to know your client's resting heart rate to use this formula.

[This link](#) will calculate a person's target HR zones using either the Maximum HR method or the HRR method (if resting HR is known). 60%-80% is a good percentage range for the client in the "average" to "good" health range category. These percentages **ARE NOT** for everyone, and the intensity level should be progressive and monitored and/or explained to *each individual client*.

If you are unsure of your client's health level, you need to prescribe a lower intensity level at the beginning. You can monitor and progress it from there.

Another easy method to measure intensity is **Rating of Perceived Exertion (RPE)** using the [Borg Scale](#). If you think that your client will have a difficult time monitoring their heart rate while exercising, you may want to use this means.

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Using the RPE, you would let tell them that on a scale of 6-20, 6 being "no exertion at all" and 19 being "extremely hard", that when they are exercising, they should feel between a ____ and a _____, giving the appropriate description to the assigned numbers.

Example: If you have a client who is in pretty good health, you may want to prescribe to them, feeling between a 13 "somewhat hard" to a 17 "very hard".

This is an easy way for them to progress themselves if doing exercising on their own.

Another method I like to suggest to people is the **talk test**. This is useful if your client is walking or exercising with another person.

I tell the client that if they are working out with someone, they should be able to converse with them, but it shouldn't be easy.

They should be able to..... talk to their partner..... but every 5 or 6 words.....have to stop to.....catch their breath. (I use these pauses to catch my breath as I explain it to them).

If they can sing while they exercise, they had better pick up the pace!

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Remember that aerobic exercise is certainly highly recommended for athletes and clients looking to participate in activities that specifically require cardiorespiratory fitness (bike trip, bi or triatholon, marathon, hiking trip, swim meet).

If this is the case, you will need to prescribe exercise *specific* to their goal, both time-wise and modality-wise.

Although we are not going to get into these specific programs, it is important to know that aerobically training for a specific activity or sport *does not* carry over to all other activities and sports.

Example: If an individual swims a half-mile every day for 2 months, then progresses to 1 mile a day, this does not mean that they would now find it easier to go on a long *run*.

They have gotten their body into better cardiorespiratory shape for *swimming*, but not for *running*.

If this was the case, any marathon runner should easily be able to hop on a bike and be competitive in a long bike race. This is not the case.

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Your cardiovascular (CV) system becomes involved based on the needs of the specific muscular system needed to perform an activity. Your muscular system adapts to the *specific demands* of that activity by increasing the number of mitochondria in these specific muscle groups enabling oxygen in the blood to be more easily extracted and used for energy (among other changes).

So if the muscles used in swimming have become more efficient at using the CV system, this doesn't mean that the muscle groups involved in running will have made similar adaptations or improvements.

This is important to know so that when putting together an exercise program, you will prescribe the best activities based on the client's goals.

The Warm-Up

We all know of the importance of a general warm-up before engaging in an exercise session:

- Creates a gradual increase in muscle temperature
- Gradually increases the HR
- Increases blood flow to the muscles
- Gradually increases respiration rate

So what's the first thing that most trainers do? They have their client get on a bike or treadmill for 5-10 minutes.

Okay, so that will get the HR and respiration rate elevated, but it is mainly increasing blood flow and tissue temperature in the lower extremities.

So are you going to do all leg exercises in your session? Probably not! So why do a general warm-up for the legs only?

It was drilled into my head for so long, that *I too* fell victim to the treadmill warm-up! Then I saw Juan Carlos Santana demonstrate *his* warm-up, and I've never looked back!

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Santana uses multi-planar, full body movements in his warm-up. The example I saw, use and love, is done with a medicine ball.

#1- Medicine Ball Swings x 10

#2- Rotations x 10

#3- Wood Chops x 10

#4- Wood Chops (other direction)

3 sets; short to no rest in between



#1



#2



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#3



#4



Not only will this increase HR and respiratory rate the same as the treadmill would, but you are now increasing blood flow and tissue temperature in most of the major muscle groups that you will probably train! It also provides a nice stretch to the muscles and increases ROM of the joints.

If the medicine ball is heavy enough (a dumbbell can be used too), it provides a pretty good workout through all 3 planes of motion. Perform this warm-up 3 times a week and you have just added another 360 repetitions of training to the muscles.

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If you are working with an athlete or a sports team, you may also want to consider a sport-specific warm-up.

For Example: If you are working with a soccer player, you may want your warm-up to include some light jogging building up to sprints, some leg swings, rotational movements, arm swings, as well as stretching.

These movements will increase the HR and respiratory rate, and will take the muscles and joints through movement patterns that mimic those occurring during competition.

Flexibility and Stretching

Range of motion (ROM) is the degree of movement that occurs at a joint.

Flexibility is a measure of ROM.

Stretching is a means to improve flexibility.

Stretching can:

- Increase ROM
- Help prevent or reverse muscular injuries
- Help prevent delayed onset muscle soreness (DOMS)
- Promote circulation
- Reduce muscle tension

It is important to incorporate a stretching routine into your client's exercise program. Ideally, the client should stretch before the workout but after a general 5-6 minute warm-up. Stretching before the workout can reduce the possibility of injuring a muscle, ligament or tendon.

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Stretches should be held to the point of mild discomfort but not pain for **30 seconds**. Repeat each stretch **3 or 4 times**. Remind the client to **breathe** while stretching.

****Try varying the position of the body part being stretched to facilitate the stretch of different muscle fibers.**

Stretching twice a week for 5 weeks has been shown to significantly improve flexibility.

Teach your clients how to do the appropriate stretches correctly. Once you have done this, the client can perform the stretches prior to starting their training session with you. This will save you time to incorporate activities that require your presence.

It will also give you the opportunity to assign a stretching program as homework, further increasing your client's wellness.

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Tell the client the reasons that they need to include a stretching program. In addition to the benefits listed above:

- Increasing flexibility in the hamstrings may help reduce low back pain
- Increasing flexibility in the hip flexors may reduce the appearance of a protruding abdomen.
- Increased flexibility can make daily activities easier to perform.

If your client has a 40 hour a week desk job, it is important to recommend that they stretch while at work.

Sitting at a desk all day shortens and tightens the hip flexor muscles and causes a "head forward" position. [Here](#) is a nice poster on Desk Stretches.

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****Recent research shows that stretching prior to exercise or activity can decrease a muscle's capacity to generate force.****

The Journal of Strength and Conditioning Research: Volume 15, No .2, pp. 241-246.

(Published by the [NSCA](#))

This shouldn't have much impact on the way you train your general population client, you are specifically performing strength and power moves. It is, however, something to take into consideration when working with athletes.

Here are 2 good sites with examples of stretches:

[NetFit](#)

[Women's Heart Foundation](#)

Nutrition

Although the focus of this ebook is on exercise programming, I wanted to add this page to recommend some very good books and products regarding proper nutrition.

I don't do too much nutritional programming with my clients. I will recommend to them eating 5 small "meals" a day (I assign healthy snacks as 2 of those meals), or to increase protein intake for those looking to gain muscle mass.

I certainly tell them about the importance of decreasing caloric intake for those looking to lose weight, and we measure body fat % throughout our training for those with fat loss as a goal. We try to cut out juices and soda.

My philosophy as a trainer is that "people need to be happy". I let them know that if they like to eat cookies...*eat cookies!* Don't eat half a row of Oreos, but have a couple. One of the biggest reasons people don't stick to fad diets is that are too restricting and very boring! As long as you stay within your calories (if you are trying to cut them), it's not terribly unhealthy (think basket of onion rings), and it's going to make you happy, **eat it!**

There are many trainers out there who *do not* advocate this method, but you should see how happy my clients are when they find out that ***I am*** that kind of trainer!

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By Wes Norris, CSCS

Other than extra protein and multi-vitamins, I *never* recommend supplementation to *anyone!* There are too many things that could possibly go wrong. I know that there are lots of supplements out there that claim to be 100% safe, but when the FDA decides otherwise (ephedra), or when the supplement has a rare, chemical reaction with someone, I don't want that hanging over my head!

When I teach my Personal Training certification course, I tell them flat out: "don't prescribe supplements to your clients!"

If you would like to do the research, and feel comfortable using certain products or recommending them to someone, that is certainly your choice. I am not saying that supplements are bad, I am simply stating that *I personally*, have not heard enough conclusive evidence that makes me feel comfortable enough to recommend it to others.

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By Wes Norris, CSCS

Here are some links for you to some very informative books (including one on Creatine supplementation) and a product called Nutrition Generator, which is a great tool for trainers or anyone interested in having custom nutritional plans made for them. *Check them out!*

[Nutrition Generator](#)

[Nancy Clark's Sports Nutrition Guidebook](#)

[Healthy Eating Every Day](#)

[Sport Nutrition](#)

[Creatine-The Power Supplement](#)

Charts and Templates

RPE/Borg Scale

Instructions for Borg Rating of Perceived Exertion (RPE) Scale

While doing physical activity, we want you to rate your perception of exertion. This feeling should reflect how heavy and strenuous the exercise feels to you, combining all sensations and feelings of physical stress, effort, and fatigue.

Do not concern yourself with any one factor such as leg pain or shortness of breath, but try to focus on your total feeling of exertion.

Look at the rating scale below while you are engaging in an activity; it ranges from 6 to 20, where 6 means "no exertion at all" and 20 means "maximal exertion."

Choose the number from below that best describes your level of exertion. This will give you a good idea of the intensity level of your activity, and you can use this information to speed up or slow down your movements to reach your desired range.

Try to appraise your feeling of exertion as honestly as possible, without thinking about what the actual physical load is. Your own feeling of effort and exertion is important, not how it compares to other people's.

Look at the scales and the expressions and then give a number.

6 No exertion at all

7

Extremely light (7.5)

8

9 Very light

10

11 Light

12

13 Somewhat hard

14

15 Hard (heavy)

16

17 Very hard

18

19 Extremely hard

20 Maximal exertion

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9 corresponds to "very light" exercise. For a healthy person, it is like walking slowly at his or her own pace for some minutes

13 on the scale is "somewhat hard" exercise, but it still feels OK to continue.

17 "very hard" is very strenuous. A healthy person can still go on, but he or she really has to push him- or herself. It feels very heavy, and the person is very tired.

19 on the scale is an extremely strenuous exercise level. For most people this is the most strenuous exercise they have ever experienced.

Borg RPE scale

© Gunnar Borg, 1970, 1985, 1994, 1998

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Sample Workouts

The following pages are actual workouts that I use based on specific client goals. Each program is based on a specific goal that has been specified at the top of the page.

These workouts serve only as examples. All of the variables are suggestions and it is up to you to evaluate the client and program the appropriate variables safely and progressively.

While the programs suggest a general warm-up, a warm-up set for each exercise is not given as an example.

It is suggested that you prescribe at least 1 warm-up set for each new exercise.

I have included 2 blank templates for you print and use if you wish. Feel free to change the details to fit you and your clients.

Abbreviations:

BB-Barbell (or Body Bar), **SB**-Stability Ball,
DB-dumbbell, **MB**-Medicine Ball, **s** or **sec**-seconds,
m or **min**-minutes, **BW**-Body Weight, **Tub**-Tubing,
FW-Free Weights, **mach**-machine, **INT**-Intensity,
#-pounds

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By Wes Norris, CSCS

Hypertrophy-Upper Body

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB warm-up	warm-up	3	10	8#	0-30 sec	n/a
BB Bench Press	exercise	3 to 4	6 to 8	90%	**	
**Push ups (feet on bench)	exercise	3 to 4	to fatigue		1-2 min	
DB Flies	exercise	3 to 4	10 to 12	75-80%	**	
**Dips	exercise	3 to 4	to fatigue		1-2 min	
Chin-ups	exercise	3 to 4	to fatigue		**	
**1 arm bent over DB row	exercise	3 to 4	6 to 10	85%	1-2 min	
Machine Row	exercise	3 to 4	6 to 8	90%	**	
**DB Bicep Curl	exercise	3 to 4	6 to 10	85%	1-2 min	
DB Overhead Press (alt arms)	exercise	3 to 4	8 to 12	75-85%	**	
**DB Lateral Raise	exercise	3 to 4	8 to 12	75-80%	1-2 min	
BB Upright Row	exercise	3 to 4	6 to 10	90%	1-2 min	
Overhead DB Tricep Ext	exercise	3 to 4	6 to 12	75-85%	1-2 min	
Doorway Pec Stretch	Flexibility	3				30 sec
Bicep Stretch	Flexibility	3				30 sec
Tricep Stretch	Flexibility	3				30 sec

Comments:

** Compound the second exercise in each pairing immediately after the first (no rest).

Designing Exercise Programs Made Simple!

By Wes Norris, CSCS

Hypertrophy-Lower Body

GOAL: Hypertrophy-Lower

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
Bike or Treadmill	warm-up			40-50%		5 min
BB Squats*	exercise	3 to 4	6 to 10	85 to 90%	1-2 min	
DB Deadlift	exercise	3 to 4	8 to 12	85 to 90%	1-2 min	
BB or DB Stiff Legged Deadlift	exercise	3 to 4	8 to 12	75 to 85%	1-2 min	
DB Lunges	exercise	3 to 4	8 to 12	80%	1-2 min	
DB Step-Ups	exercise	3 to 4	10 to 12	80 to 85%	1-2 min	
Jump-Ups	exercise	3	10 to 15	n/a	1 min	
DB Single Leg Calf Raise	exercise	3 to 4	to fatigue	90%	30 to 45 s	
Quad Stretch	flexibility	3				30 sec
Hamstring Stretch	flexibility	3				30 sec
Calf Stretch	flexibility	3				30 sec
Hip Flexor Stretch	flexibility	3				30 sec

Comments:

Be cautious of form/technique with the BB Squat and Stiff legged deadlift.

A DB squat holding the weight in front can be substituted for the squat.

A Body Weight(BW) Stiff Leg/Single Leg Deadlift can be substituted for the Stiff Legged Deadlift.

Designing Exercise Programs Made Simple!

By Wes Norris, CSCS

Hypertrophy-Total Body

GOAL: Hypertrophy-total body

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB warm-up	warm-up	3	10	8#	0-30 sec	n/a
DB bench press	exercise	3 to 4	6 to 10	85%	90 sec	
1 arm DB row	exercise	3 to 4	6 to 10	85%	90 sec	
alternating overhead DB press	exercise	3 to 4	8 to 12	70%	90 sec	
DB upright row	exercise	3 to 4	8 to 12	85%	90 sec	
DB overhead tricep extension	exercise	3 to 4	8 to 12	80%	90 sec	
seated DB bicep curl	exercise	3 to 4	8 to 12	75%	90 sec	
BB squats	exercise	3 to 4	6 to 10	85%	90 sec	
BB or DB SL deadlift	exercise	3 to 4	8 to 12	75%	90 sec	
1 legged calf raise	exercise	3 to 4	8 to 12	70%	45 sec	
MB crunch on SB	exercise	3 to 4	to fatigue	varied	60 sec	
Bicycle crunch	exercise	3 to 4	to fatigue	varied	60 sec	

Comments:

Designing Exercise Programs Made Simple!

By Wes Norris, CSCS

Strength-Total Body

GOAL: Strength-total body

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB warm-up	warm-up			8#	0-30 sec	
BB Bench Press	exercise	3 to 5	2 to 6	90 to 95%		
BB Bent Over Row	exercise	3 to 5	2 to 6	90 to 95%		
DB Incline Bench Press	exercise	3 to 5	2 to 6	90 to 95%		
Lat Pulldown	exercise	3 to 5	2 to 6	90 to 95%		
DB Overhead Shoulder Press	exercise	3 to 5	4 to 6	90%		
Seated DB Bicep Curl	exercise	3	4 to 6	90%		
Machine Tricep Pressdown	exercise	3	4 to 8	90%		
BB Upright Row	exercise	3 to 5	4 to 8	90%		
BB Squats	exercise	3 to 5	2 to 6	90 to 95%		
Standing Mach. Hamstring Curl	exercise	3 to 5	3 to 6	90 to 95%		
DB Deadlift	exercise	3 to 5	2 to 6	90 to 95%		
Weighted Crunches	exercise	3	12 to 15	85%		
Weighted Hyper-extensions	exercise	3	12 to 15	85%		

Comments:

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Muscular Endurance

GOAL: Muscular Endurance

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB Warm-Up	warm-up	3	15	4 to 6#		
DB Chest Press on SB	exercise	3	15 to 20	60 to 70%	30s to 1m	
BB Upright Row	exercise	3	15 to 20	60 to 70%	30s to 1m	
Machine Row	exercise	3	15 to 20	60 to 70%	30s to 1m	
DB Overhead Press	exercise	3	15 to 20	50 to 60%	30s to 1m	
DB Overhead Tricep Ext.	exercise	3	15 to 20	60 to 70%	30s to 1m	
DB Bicep Curl	exercise	3	15 to 20	60 to 70%	30s to 1m	
Lunges	exercise	3	15 to 20	70%	30s to 1m	
DB Deadlift	exercise	3	15 to 20	70%	30s to 1m	
DB Lateral Raises	exercise	3	15 to 20	50 to 65%	30s to 1m	
Crunches	exercise	3	20 to 50+		30s to 1m	
Supermans	exercise	3	20 to 50		30s to 1m	
General Stretches	flexibility	3 each				30 sec

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Toning

GOAL: Toning

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB Warm-up	warm-up	3	10	8#	0 to 30 s	
DB Lunge Walks	exercise	3	10 to 15	75 to 80%	0	
SB Hamstring Curls	exercise	3	10 to 15	n/a	0	
** 30 sec jump rope/J. Jacks	conditioning	3		15 to 17 RPE	30s to 1m	
BB Upright Row	exercise	3	10 to 15	75 to 80%	0	
BB Bicep Curl	exercise	3	10 to 15	80%	0	
** 30 sec jump rope/J. Jacks	conditioning	3		15 to 17 RPE	30s to 1m	
SB Push Up	exercise	3	10 to 15	n/a	0	
BB Bent Over Row	exercise	3	10 to 15	75 to 80%	0	
** 30 sec jump rope/J. Jacks	conditioning	3		15 to 17 RPE	30s to 1m	
DB Overhead Tricep Ext	exercise	3	10 to 15	80%	0	
DB Overhead Shoulder Press	exercise	3	10 to 15	75 to 80%	0	
DB Lateral Raise	exercise	3	10 to 15	70 to 80%	0	
** 30 sec jump rope/J. Jacks	conditioning	3		15 to 17 RPE	30s to 1m	
Crunches	exercise	3	to fatigue	n/a	1 min	
General Stretching	flexibility	3				30 sec

Comments:

You can perform each group as a mini-circuit; repeating 3 times before moving to the next group or go down the list and then repeat the whole workout 2 more times.

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Conditioning #1

GOAL: Conditioning

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
TM warm-up	warm-up			40 to 65%		
MB warm-up	warm-up	3	15	medium		
BW Squats (fast)	exercise	3			0 to 30 s	20 seconds
BW Lunges (fast)	exercise	3	10 ea.side		0 to 30 s	
Jump Ups (onto box/bench)	exercise	3	10 to 12		30 to 90s	
Tubing Alt Punch	exercise	3	n/a	varied	0 to 30 s	25 seconds
Tubing Dbl Arm Punch	exercise	3	n/a	varied	0 to 30 s	25 seconds
Tubing Flies	exercise	3	n/a	varied	30s to 90s	25 seconds
Tubing Alt Row	exercise	3	n/a	varied	0 to 30 s	25 seconds
Tubing Dbl Arm Row	exercise	3	n/a	varied	0 to 30 s	25 seconds
Tubing Pulldown w/ Squat	exercise	3	n/a	varied	30s to 90s	25 seconds
MB Sideways Throws (into wall)	exercise	2	15	varied		
SB crunches	exercise	2	to fatigue	BW	1 min	

Comments:

Repeat each group as a mini-circuit

Perform 3 sets of each mini-circuit.

Rest as little as needed between exercises.

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Conditioning #2

GOAL: Conditioning 2

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
3 minutes of layups-full court (if you have the means- otherwise-general)	warm-up					
**CIRCUIT						
Push Ups	exercise	**	10 to fatigue		0-60sec	
Crunches	exercise	**	to fatigue		0-60sec	
Jumping Jacks	exercise	**		fast	0-60sec	30 seconds
2 fast flights of stairs	exercise	**		fast	0-60sec	
Lunges	exercise	**	10 each		0-60sec	
Squat Jumps	exercise	**			0-60sec	30 seconds
Dips	exercise	**	to fatigue		0-60sec	
Pull Ups	exercise	**	to fatigue		0-60sec	
2 fast flights of stairs	exercise	**		fast	0-60sec	

Repeat 2-5x

Comments:

If you don't have stairs, use jump rope instead.

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Conditioning #3

GOAL: Conditioning 3

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
DB Alt Bicep Curl	exercise	3	6 to 10	10 to 15#	0	
DB Alt Bent Over Row	exercise	3	6 to 10	10 to 15#	0	
DB Turning Uppercut	exercise	3	6 to 10	10 to 15#	1 min	
DB Alt Overhead Press	exercise	3	6 to 10	8 to 12#	0	
DB Alt "Y" Press	exercise	3	6 to 10	8 to 12#	0	
DB Turning Overhead Press	exercise	3	6 to 10	8 to 12#	1 min	
DB Front Lunge w/ reach	exercise	3	6 to 10	12#	0	
DB Side Lunge w/ reach	exercise	3	6 to 10	12#	0	
DB Turning Lunge w/ Reach	exercise	3	6 to 10	12#	1 min	

Comments:

This is a great routine designed by Gary Gray.
Each group of exercises uses all 3 planes of motion.
The first group are 3 "pulls", each in a different plane.
The second group are 3 "pushes" in 3 planes.
The third group are 3 3 leg exercises in 3 planes.

I have done this routine as a warm-up and as a program.
Play with it. By the third exercise of each group, the client is usually struggling.
Use the same weight for each exercise within a group.

See pictures of the exercises below.

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DB Alt Bicep Curl



DB Alt Bent Over Row



DB Turning Uppercut



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DB Alt Overhead Press



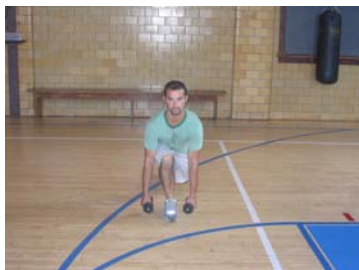
DB Alt "Y" Press



DB Turning Overhead Press



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DB Front Lunge w/ reach



DB Side Lunge w/ reach



DB Turning Lunge w/ Reach

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HIIT

GOAL: HIIT (outdoor track)

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
5 min jog	warm-up			easy		5 minutes
10 second sprint	HIIT	4 to 10		100%	0	
60 second jog	Recover	4 to 10		40 to 50%	**0	

Comments:

** if client needs more rest, increase recovery time

This is advanced training!

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Quadset-Template

GOAL: Quadset Template

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB warm-up	warm-up	3	10	varies	0 to 30s	
Heavy Push	exercise	2 to 4	8 to 12	75 to 90%%	0 to 60s	
Medium Pull	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Legs	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs	exercise	2 to 4	to fatigue		0 to 60s	
Heavy Pull	exercise	2 to 4	8 to 12	75 to 90%%	0 to 60s	
Medium Legs	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Push	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs	exercise	2 to 4	to fatigue		0 to 60s	
Heavy Legs	exercise	2 to 4	8 to 12	75 to 90%%	0 to 60s	
Medium Push	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Pull	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs	exercise	2 to 4	to fatigue		0 to 60s	

Comments:

This is a tweak of Santana's Bi, Tri, and Quadplexes.

2 sets of each group, with warm-up, should take 30 minutes.

Add a third set with some HIIT after each abs for extra fat burning.

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Quadset #1

GOAL: Quadset Example 1

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB warm-up	warm-up	3	10	8#	0 to 30s	
Heavy Push- DB Chest on SB	exercise	2 to 4	8 to 12	75 to 90%	0 to 60s	
Medium Pull- Band Row	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Legs- BW Lunges	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs- Crunches w/ arms back	exercise	2 to 4	to fatigue		0 to 60s	
Heavy Pull- Pull Ups	exercise	2 to 4	8 to 12	75 to 90%	0 to 60s	
Medium Legs- Jump Ups (step)	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Push- Push Ups	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs- "Butt Ups"	exercise	2 to 4	to fatigue		0 to 60s	
Heavy Legs- DB Deadlift	exercise	2 to 4	8 to 12	75 to 90%	0 to 60s	
Medium Push- Band Alt Punch	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Pull- BB Upright Row	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs- MB Sideways Throw	exercise	2 to 4	15 each	8#	0 to 60s	

Comments:

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Quadset #2

GOAL: Quadset Example 2

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION
MB warm-up	warm-up	3	10	8#	0 to 30s	
Heavy Push- Tricep Pushdown	exercise	2 to 4	8 to 12	75 to 90%	0 to 60s	
Medium Pull- DB Rev Flies	exercise	2 to 4	12 to 15	60 to 70%	0 to 60s	
Medium Legs- BW Squats	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs- Bicycles	exercise	2 to 4			0 to 60s	30 seconds
Heavy Pull- 1 Arm DB Row	exercise	2 to 4	8 to 12	75 to 90%	0 to 60s	
Medium Legs- Stairs	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Medium Push- DB Overhd. Prs	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs- Supermans	exercise	2 to 4			0 to 60s	20 seconds
Heavy Legs- BB SLD*	exercise	2 to 4	8 to 12	75 to 90%	0 to 60s	
Medium Push- DB Flies	exercise	2 to 4	12 to 15	65 to 75%	0 to 60s	
Medium Pull- DB Side Raise	exercise	2 to 4	12 to 15	70 to 80%	0 to 60s	
Abs- MB crunch/toss on SB	exercise	2 to 4	to fatigue	4 to 6#	0 to 60s	

Comments:

*SLD= Stiff Legged Deadlift

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Blank Template

Client: _____ **Trainer:** _____

GOAL: _____

EXERCISE	TYPE	SETS	REPS	INT/Weight	REST	DURATION

Comments:

FREE Bonus Article

Nutrition Tips to Improve Fat Loss

© By Rick DeToma

Incorporating these fat loss tips will improve your nutrition program. Start off slowly and add one a week, you don't have to adopt all of them at once. Before long, you've cleaned up your nutrition program and on your way to reaching your goal. Trendy diets, fads and the infomercial product of the month, are not going to help you reach your weight loss goals. A well thought-out nutrition and exercise program will.

Eat breakfast

Proven time and again, those who eat breakfast are more successful at controlling their weight than those that don't. Plus, when doing strength training exercises (and you know you should be), it's even more important to make certain you fuel those muscles after an overnight fast. The perfect time for burning fat because glycogen, blood glucose and insulin levels are all low.

Unfortunately, it may also be perfect for burning muscle, because glycogen levels are low, and levels of the catabolic stress hormone cortisol are high. If you skip breakfast and eat lunch at noon, you're not only in a highly catabolic (muscle wasting) state, you're also sending an unmistakable starvation signal to your body.

Eat less sugar

Start reading labels! Sugar is hidden in almost every commercial food item. A single tablespoon of ketchup gets 3 of its 4 grams of carbs from sugar. A 12 oz can of cola has a staggering 40 grams of sugar, and ALL of the carbs in a cola are sugar! Why does that matter?

Simple sugars are digested very quickly and cause a rapid spike in blood sugar. Your body then releases large amounts of insulin. Insulin quickly clears the glucose from the bloodstream leading to low blood sugar (hypoglycemia.) Low blood sugar causes cravings, hunger, weakness, mood swings and decreased energy. These cravings for sugar result in a vicious cycle of ups and downs in blood sugar levels throughout the day.

Eat More Often

Studies have shown that those who eat 4-6 smaller meals per day have less body fat than those eating 2-3 meals a day, even if both groups eat about the same number of calories. This is because of maintaining steady blood sugar levels. Too much insulin activates fat storage enzymes and forces fat in the bloodstream into fat cells for storage.

High insulin levels also inhibit enzymes that promote the breakdown of existing stored body fat. You can manage your blood sugar and insulin levels by choosing fewer simple

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carbohydrates, more complex carbohydrates, eating fiber and having your carbohydrates with lean proteins approximately every three hours.

Eat protein

Be sure to include enough protein for your level of activity (you are exercising...right?)

Protein speeds up your metabolism because your body has to work harder to digest, process, and utilize it compared to fats or carbs.

The "thermic" effect of protein is one of the reasons that a higher protein diet is more effective for fat loss than a diet high in fat or carbs. Too much of any food can be stored as body fat, but protein is less likely to be converted to fat than any other nutrient.

Eat nothing from a box

The closer your food is to nature the better off you are. Have you looked at the ingredients list in most packaged food these days? You need to be a scientist to figure out what half the ingredients are. Stick to real, wholesome foods, fruits, vegetables, whole grains, lean protein, etc.

Eat your vegetables

I don't mean fast food french fries. Try to get as many vegetable servings into your meals as you can. It's nearly impossible to over eat vegetables. They are full of fiber and will help keep you full between meals. They also contain loads of antioxidants. Raw is great, steamed is another good way to have them. Hold the heavy cheese sauces please!

Eat protein and carbs together

If you want to keep your blood sugar in check, then don't eat your carbs by themselves. Strive to always have balanced meals of protein, carbs and healthy fats. You'll feel better and your muscles will thank you.

Prepare your own food

Best for several reasons...It's cheaper than eating out, you know exactly what you are eating, and it saves time. It takes no more time to cook up 6 healthy chicken breasts than it does to cook one or two. Make things easy. Prepare them over the weekend and your lunches for the next few days are done. While you are at it, put on a pot of brown or wild rice, or bake up some sweet potatoes and you're good to go.

Drink water

LOTS! Most people are already dehydrated. Strive to drink a gallon a day. If you drink a lot of coffee, then you need an extra 8 oz for each cup of coffee. Exercise will put more demands on your fluid levels. You need water. Drink 50-75% of your body weight in ounces of water. Add an additional 16 oz for strenuous exercise. No complaining!

Get more exercise

Get some exercise on most days of the week, and alternate between strength training

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exercises and cardio training. If you are a beginner, shoot for two weight workouts a week and progress to 3 or more depending upon your goals. Get in as many cardio sessions as your schedule will allow, but aim for at least 3.

Commit to adopting these nutrition program changes and you'll be well on your way to reaching your weight loss goal, whether it's ten pounds or many more. Sound nutrition and exercise will always succeed in the long run. Don't give into the temptation of fads.

The information contained in this article is strictly for informational purposes and is not intended to provide medical advice. If you are sedentary or over 40 please get clearance from a doctor before starting an exercise program.

*About the Author: Rick DeToma is a fitness coach, and trainer who specializes in home workouts. Contact Rick for a no obligation telephone fitness assessment at:
<http://www.tailored-fitness-home-workouts.com/contact.html>*

Get more tips like these by subscribing to Tailored Fitness News <http://www.tailored-fitness-home-workouts.com/newsletter.html>

Bonus- Wes's Fitness Rolodex

My Favorite Websites and Articles:

<http://www.allaroundfitness.org>
<http://www.witseducation.com/>
<http://www.sportsspecific.com/index.cfm?affID=gymcoch>
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<http://www.tailored-fitness-home-workouts.com/fitness-articles.html>

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[Six Figure Income in Strength and Conditioning](#)

[How To Turn Your Fitness Knowledge Into 10K a Month](#)

[How To Open Your Own Sports Training Facility](#)

[Six Figure Trainer](#)

[Nutrition Generator](#)

[Ryan Lee.com](#)

[How To Achieve The Perfect Golf Swing](#)

[Fitness E-Books.com](#)

[Improving Strength, Speed, Endurance and Agility for Female Athletes](#)

[Fit Over 40 ebook](#)

[Speed Experts](#)

[Firm and Flatten Your Abs](#)

[Muscle Building and Fat Loss Program](#)

[Golf Fitness Guide](#)

Recommended Books: (through Human Kinetics)

[The Complete Book of Personal Training](#)

(must have!)

[Essentials of Strength and Conditioning](#)

(must have!)

[Physiology of Sport and Exercise](#)

[Sport Nutrition- An Introduction to Energy Production and Performance](#)

[Athletic Body in Balance \(DVD\)](#)

[Periodization Training for Sports](#)

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